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JOSEPH C. REDMOND, JR
43464 FOXGROVE COURT
ASHBURN, VA 20147

EXAMINER	
DAYE, CHELCIE L	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/721,602
Filing Date: November 25, 2003
Appellant(s): GOYAL ET AL.

Joseph P. Curtin

For Appellant

EXAMINER'S ANSWER

This is in response to the Appeal Brief filed March 24, 2009, appealing from the Office action mailed December 08, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,502,205	Yanai	11-2000
2004/0193658	Kawamura	08-2003
5,623,599	Shomler	07-1994

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4-7, 10, 13-15, 18-20, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai (US Patent No. 6,502,205) filed November 10, 2000, in view of Kawamura (US Patent Application No. 20040193658) filed August 29, 2003.

Regarding Claims 1, 7, 10, 15, and 20, Yanai discloses a method for asynchronously remotely copying database content changes from a primary site to a remote site, the method comprising:

associating a sequential identification with each respective log record write and each corresponding data record write received at the primary site, each data record write containing modifications to a page of the database and each log record write containing information describing modifications to the page of the database for a corresponding data record write (column 32, lines 34-58 and column 33, lines 7-10, Yanai). However, Yanai is silent with respect to asynchronously remotely copying each respective log record write from the primary site to the remote site; receiving an acknowledgement at the primary site, the acknowledgement corresponding to a log record write that has been completed at the remote site; and asynchronously remotely copying each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement. On the other hand, Kawamura discloses asynchronously remotely copying each respective log record write from the primary site to the remote site ([0016] and [0054], lines 13-18, Kawamura); receiving an acknowledgement at the primary site, the

acknowledgement corresponding to a log record write that has been completed at the remote site ([0073], Kawamura); and asynchronously remotely copying each data record write having a sequential identification that is only prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement ([0075], lines 1-3 and [0076-0077], Kawamura). Yanai and Kawamura are analogous art because they are from the same field of endeavor of asynchronous remote copying. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Kawamura's teachings into the Yanai system. A skilled artisan would have been motivated to combine in order to provide a system in which modification contents of information completed within a primary site are lost in a remote site is lower in response of a failure or predetermined condition. Thus, allowing for a more efficient and non-disruptive asynchronous copy system.

Regarding Claims 4, 13, 18, and 24, the combination of Yanai in view of Kawamura, disclose the method wherein a log record write is asynchronously remotely copied from the primary site to the remote site before a data record write is asynchronously remotely copied from the primary site to the remote site (column 32, lines 34-38, Yanai).

Regarding Claims 5, 14, 19, and 26, the combination of Yanai in view of Kawamura, disclose the method wherein each log record write is a log block ([0050], lines 1-6, Kawamura) and each data record write is a data block write ([0048], lines 5-7, Kawamura).

Regarding Claim 6, the combination of Yanai in view of Kawamura, disclose the method further comprising:

asynchronously receiving a log record write at the remote site ([0016] and [0054], lines 13-18, Kawamura);

storing the received log record write at the remote site ([0062], Kawamura);

sending an acknowledgement from the remote site to the primary site when the received log record write is complete ([0073], Kawamura);

asynchronously receiving a data record write at the remote site from the primary site ([0075], lines 1-3 and [0076-0077], Kawamura); and

storing the received data record write ([0062], Kawamura).

3. Claims 2-3, 8-9, 11-12, 16-17, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai (US Patent No. 6,502,205) filed November 10, 2000, in view of Kawamura (US Patent Application No. 20040193658) filed August 29, 2003, and further in view of Shomler (US Patent No. 5,623,599) filed July 29, 1994.

Regarding Claims 2, 8, 11, 16, and 22, the combination of Yanai in view of Kawamura disclose all of the claimed subject matter as stated above. However, while the combination of Yanai in view of Kawamura, teach a sequential identification, they are not as detailed with the being a monotonically increasing identification number. On

the other hand, Shomler discloses a monotonically increasing identification number (column 11, lines 38-46, Shomler). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Shomler's teachings into the Yanai and Kawamura system. A skilled artisan would have been motivated to combine in order to allow for the identification to be more precise and consistent with the information being produced by the system.

Regarding Claims 3, 9, 12, 17, and 23, the combination of Yanai in view of Kawamura, and further in view of Shomler, disclose the method wherein the sequential identification is a monotonically increasing time-stamp identification (column 7, lines 43-60, Shomler).

(10) Response to Argument

Appellant argues, Kawamura does not teach the claimed "asynchronously remotely copying each respective log record write from the primary site to the remote site".

Examiner respectfully disagrees. To begin, the examiner provided multiple citations within the Kawamura reference that were relied upon for the teaching of the above argued feature.

As an overview, Kawamura teaches of a remote copy function in a storage apparatus for sending a log record and database data generated in a primary system to

a secondary system, wherein convention data transfer methods are divided into two kinds (i.e. synchronous and asynchronous) (see paragraph [0004]). As understood from the above discussed paragraph, the function being discussed is a remote copy function (i.e. remotely copying) wherein a log record (i.e. log record) is generated in a primary system (i.e. primary site) and transferred to a secondary system (i.e. remote site).

In more detail, the examiner cited paragraphs [0016-0017] of the Kawamura reference wherein the section is titled "Log Asynchronous and DB Asynchronous Method". This section taught that the log record and the database record are transferred asynchronously to the remote site; thus teaching the claimed feature as argued above. However, the appellants argue that the relied upon paragraphs [0016-0017] teach away from the concept of a log block that is asynchronously transferred to a remote site because of "the drawback that sometimes the modification contents of the transactions are sometimes lost in the remote site". The examiner would like to point out the fact that this is a combination of references and paragraphs [0016-0017] are relied upon for merely showing this is a known method of transferring log record writes from a primary site to a remote site asynchronously. Also, just the mention of there being a slight degradation to the site does not automatically mean that the reference is teaching away from facts, instead the reference is simply stating a possible outcome. Therefore, the appellant's argument that the reference teaches away from the concept is invalid because the rejection is not anticipatory but instead obvious.

Next, the examiner also cites that Kawamura teaches "*the received write request is a write request of the log block or status information, then the primary remote copy processing section temporarily stores the write request and conducts asynchronous write processing into the secondary disk*

subsystem" (see paragraph [0054]), wherein the preceding excerpt teaches the presence of write requests of the log block (i.e. log record writes) that are asynchronously remotely copied from the primary system to the secondary system. Nevertheless, the appellant argues that the log block indicated by item **242a** on line 14 of the paragraph [0054], corresponds to a DB block. However, while the examiner agrees that item 242a corresponds to a DB block (as indicated throughout the Kawamura reference); there is nothing that indicates that the phrase "log block" within paragraph [0054] is actually what's incorrect and actually that the reference number is what should be changed to indicate item 262a as opposed to changing the wording. More support for this belief is the fact that paragraph [0054] primary discussion is on the log block 262 (which is mentioned multiple times throughout that paragraph), so therefore it would make more sense for the reference number to be incorrect. As a result, the examiner fully believes that paragraph [0054] of Kawamura is referring to the claimed log record write being written asynchronously from a primary to a remote site (not the DB block).

Lastly, the examiner cites a further teaching by Kawamura, which states "*it can be determined whether each of the log block, DB block, and status information is written into the secondary disk subsystem synchronously or asynchronously*" (see [0082], lines 1-6). The preceding excerpt clearly discloses that a log block can be written from a primary site to a remote site asynchronously.

In summary, the examiner has provided multiple citations ([0016-0017], [0054], and [0082]) throughout the Kawamura reference to disclose the argued feature of

"asynchronously remotely copying each respective log record write from the primary site to the remote site".

Appellant argues, it is impermissible hindsight that the Examiner can combine Yanai and Kawamura to form the rejection.

Examiner respectfully disagrees. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Thus, the examiner fully believes that this is knowledge within the level for one of ordinary skill in the art, especially due to the fact that some of the discussion at hand within the Kawamura reference was within the background of the invention therefore making it information that was well known within the art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,
CLD
June 17, 2009

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